The sharp divide

Do we need animals to feed this world safely, well, sustainably, equitably and humanely?

Materials from a Café at the 2nd International Conference on Global Food Security, Ithaca, USA, 13 October 2015

ILRI
INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

Cornell University

CGIAR RESEARCH PROGRAM ON Agriculture for Nutrition and Health
Led by IFPRI

Background

- Livestock, the fastest-growing, highest-value and a highly controversial agriculture sector, is at a crossroads. Following a new set of 17 sustainable development goals, the current and potential roles of livestock systems in food and nutrition security and other aspects of sustainable development, including the environment, human health and livelihoods, continue to be debated.
- Opinions are sharply divided in the industrialized world between those who consider animals to be more part of the solution and those who consider them to be more part of the problem.
- Using the format of lively and critical debate led by key players in the livestock food system, workshop participants will identify challenges and formulate actionable responses to advance the roles livestock play in sustainable global food security.

Agenda

- Welcome by the co-chairs
- Short presentations
  - We have to have more meat, eggs, milk and animals – Delia Grace
  - We want to have more meat, eggs, milk and animals – Chris Delgado
  - We mustn't have more meat, eggs, milk and animals – Tara Garnett
- Group exercises and feedback

Delia Grace
Why the world must eat animal-source foods

Nutritional divides

Animal-source foods are a big part of meeting global nutritional as well as food needs and demands.

Of the world's 7 billion people, only a small percentage are fed and nourished.

It is a shocking indictment of the global food system that, in the 21st century, most of the world's population have sub-optimal diets:

1 billion going to bed hungry

2 billion are vulnerable to food insecurity

1 billion have diets that do not meet all their nutritional requirements

1 billion suffer the effects of over-consumption

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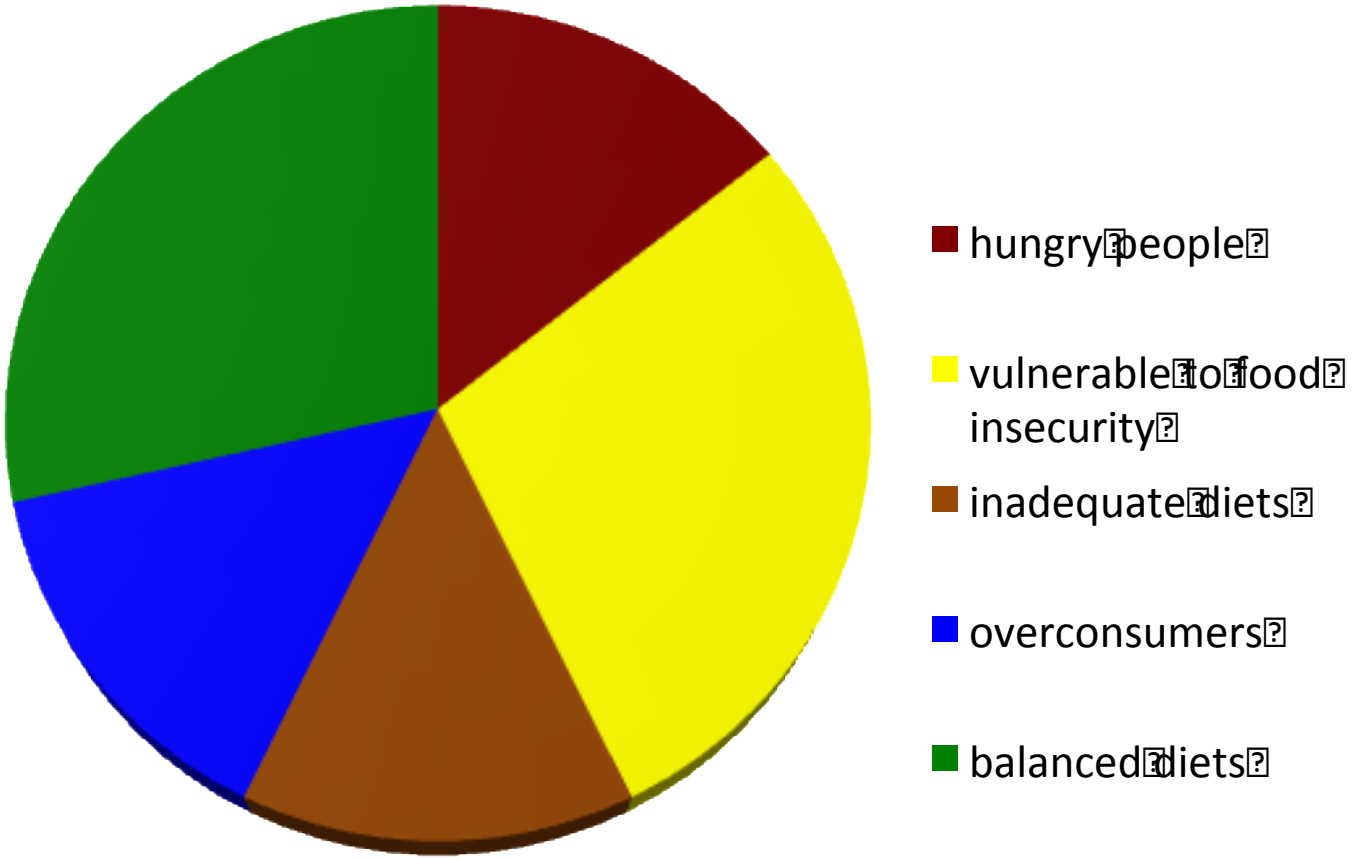
Nutritional divides among 7 billion people today



Billions could benefit from more Animal-Source Foods (ASF)

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Billions could benefit from safer ASF

- **100% of raw and pasteurised** milk in Assam fails standards
- 24% of **boiled** milk in Abidjan unacceptable for B. cereus
- **98% of meat** in Ibadan unacceptable
- **30%** of intensive chicken in South Africa unacceptable for *S. aureus*
- **77%** farmed fish in Egypt unacceptable bacteria
- **46%** of Nairobi milk and **93%** of Addis milk unacceptable aflatoxins

ASF supports diets and livelihoods

- 500 million smallholders produce 80% of food in poor countries.
- 43% of the workforce are women.

	% production by smallholder livestock farms					
	Beef	**Chicken (meat)**	**Small ruminant (meat)**	**Milk**	**Pork**	**Eggs**
East Africa		>85		60-90		
Bangladesh	65	77	78	65		77
India (< 2ha land)	75	92	92	69		71
Thailand		43			37	
Vietnam				95	80	

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The ‘Goldilocks’ solution

Not too little

Not too much

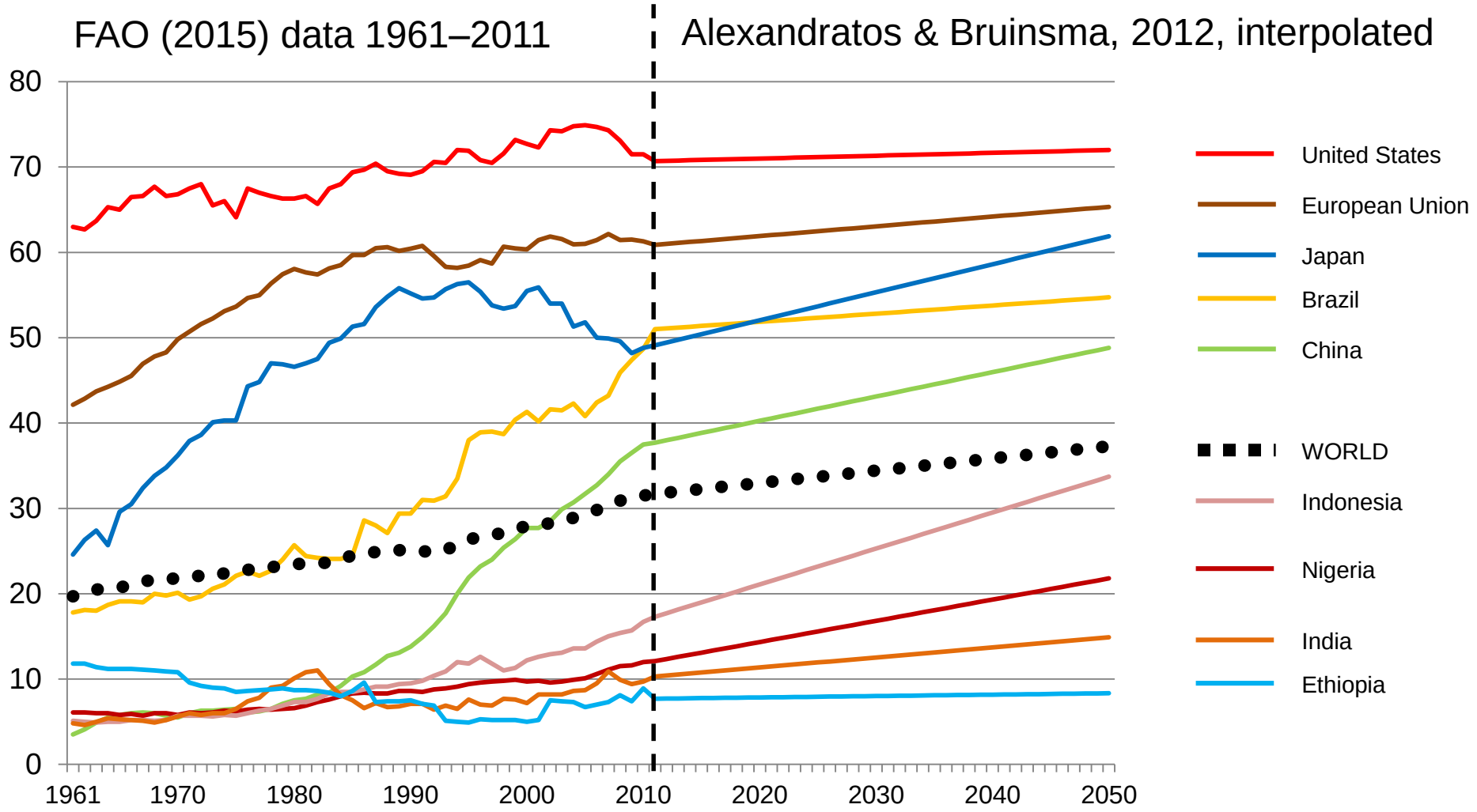
Just right!

Goldilocks syndrome: Just 20 grams of animal-derived protein a day ---such as in half a litre (2.5 cups) of milk, 80 grams (2.8 ounces) of beef, or 2.5 eggs --- can combat under-nutrition, helping children to develop to their full potential.

Chris Delgado
Why the world wants to eat animal-source foods

Actual average consumption of animal-based protein since 1961 and projected to 2050 in selected countries based on FAO

g/capita/day



Note: The Alexandratos & Bruinsma 2012 projections covered 2006-2050. Their trend result was carried forward here from the FAOStat actual data point for 2011.

Source: J. Ranganathan *et al., Shifting Diets,* Installment 11 of the *World Resources Report,* WRI, *forthcoming.*

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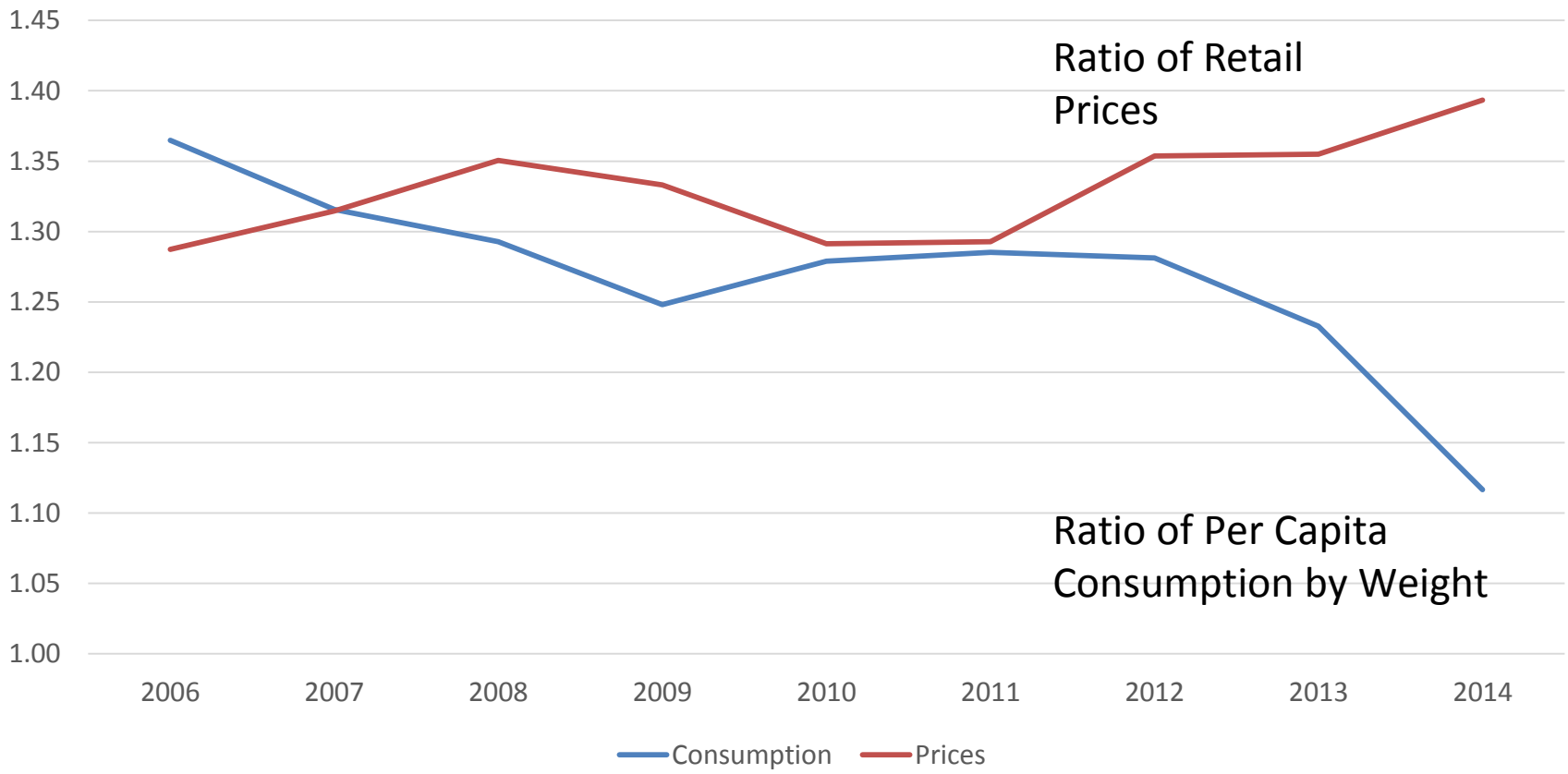
Consumer-Level Ratios of Beef to Pork in the US 2006-2014



Source: Data from USDA (various)

In a nutshell, demand for animal protein

- May have **peaked** in recent years in some of the **OECD countries**
- May **rise again even there**, depending on incomes, but **prices and quality will drive product choices** (pork versus beef, say)
- Has without doubt **risen rapidly and broadly since the early 1980s in the emerging countries** (developing countries are more than 2/3 of global consumption meat now, up from less than 1/3 in 1980)
- It will likely continue to do so as the **global middle class doubles by 2030** and will continue to expand
- **Consumption is still too low now on even an average basis** in the poorest countries (< 10 g/capita/day all animal-sourced compared to norm of 50 g all sources)
- **Poorest people are below averages and likely way below needs** for protein and micronutrients that animal-source foods are often best at delivering under developing country (esp. rural) conditions

Tara Garnett
Why the world must not eat animal-source foods

Farming animals for meat, milk & eggs: bads now outweighing goods

14.5% global GHG emissions

Eat 40% grains produced

Use 70% of farmland

Drive deforestation

Pollute water sources

Too much is not good for you

70% diseases from wild/farmed animals

Use 17% of agricultural irrigation water

BUT over 0.75bn poor people depend on animal farming

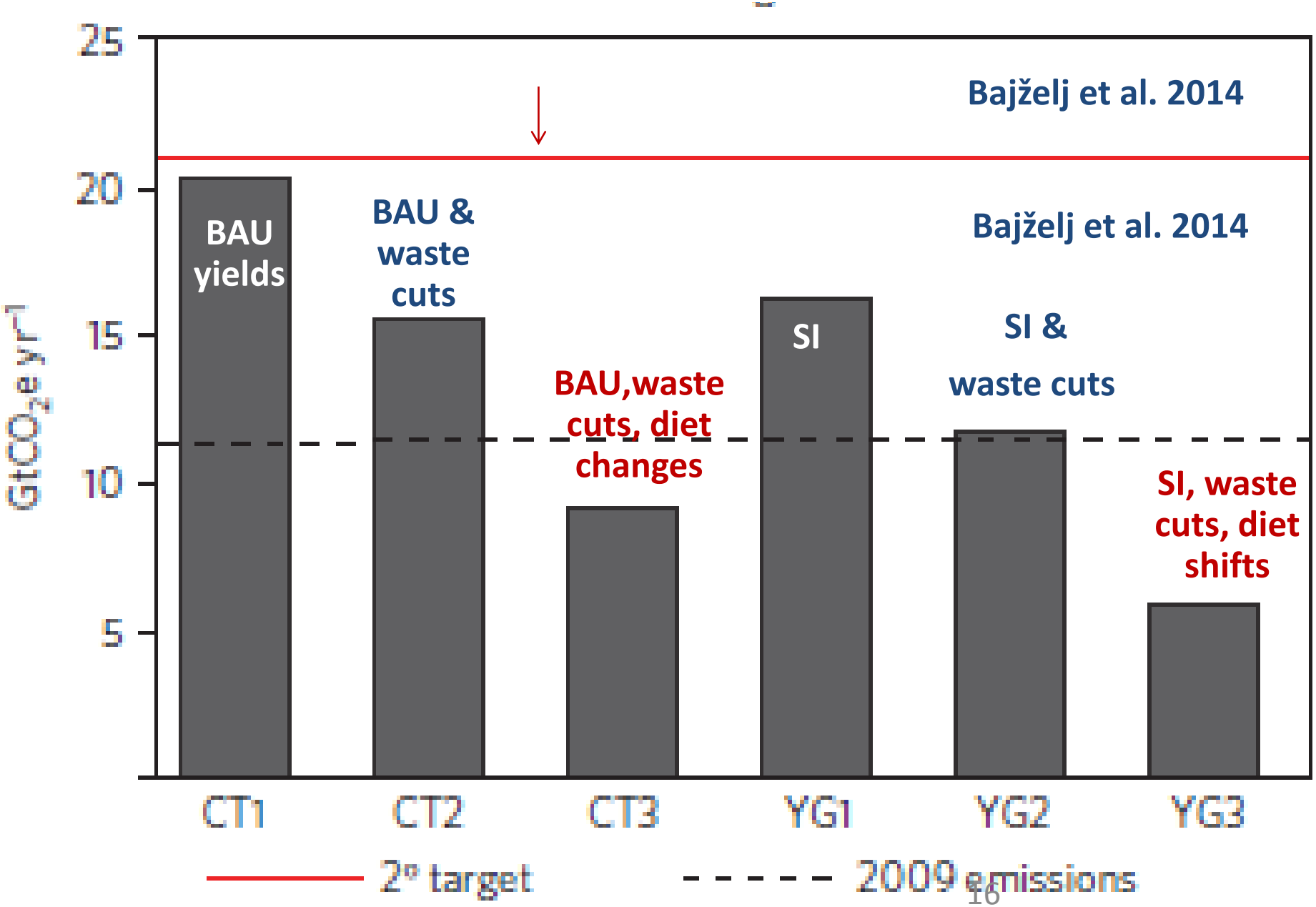
Make use of byproducts and leftover land

Rich in protein & essential nutrients

People like meat; culturally important

Leather, wool, glues

Climate change: production improvements & waste management necessary but not sufficient

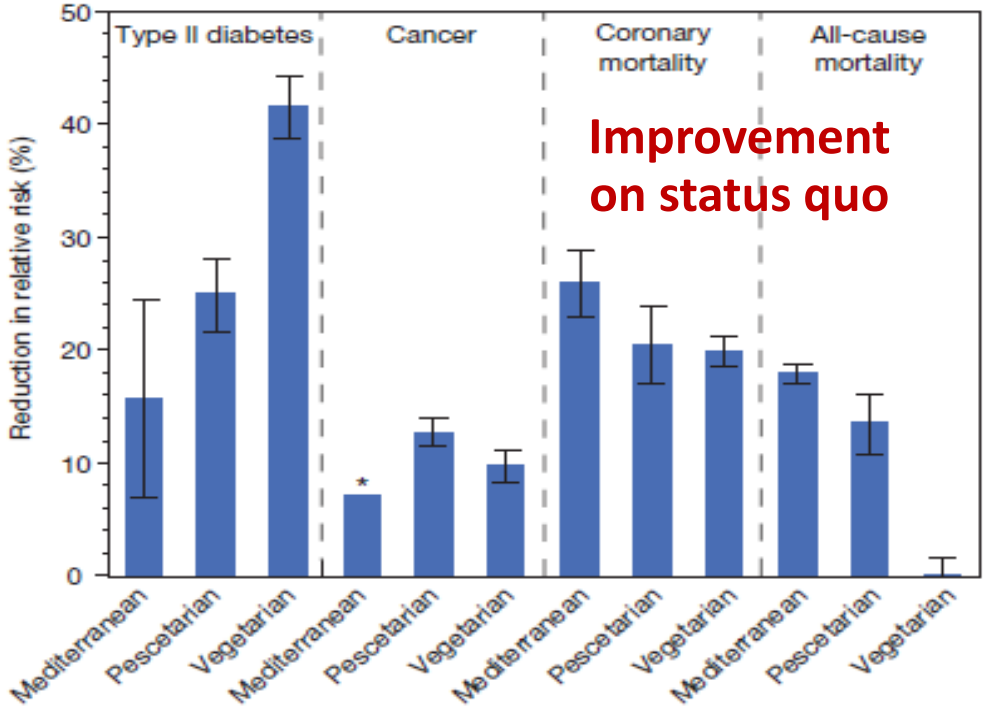


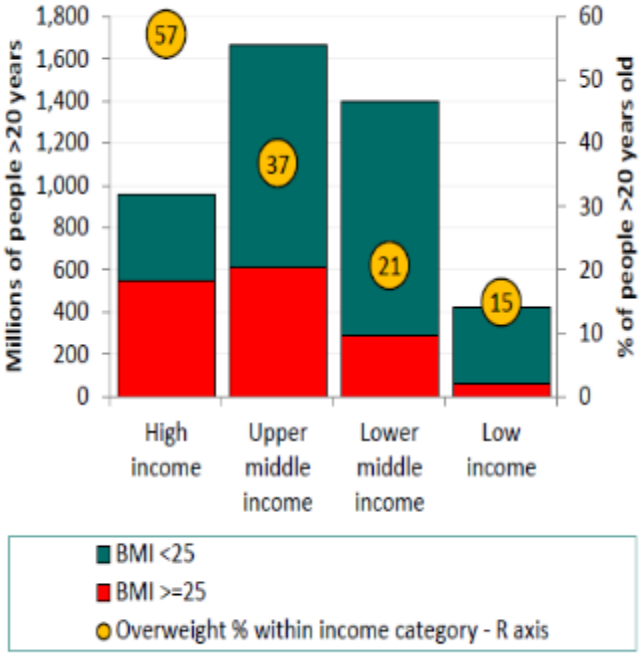
Changes in diets (higher consumption of meat, sugars, refined fats and oils) have contributed to increases in Type II diabetes, coronary heart disease and other diseases.

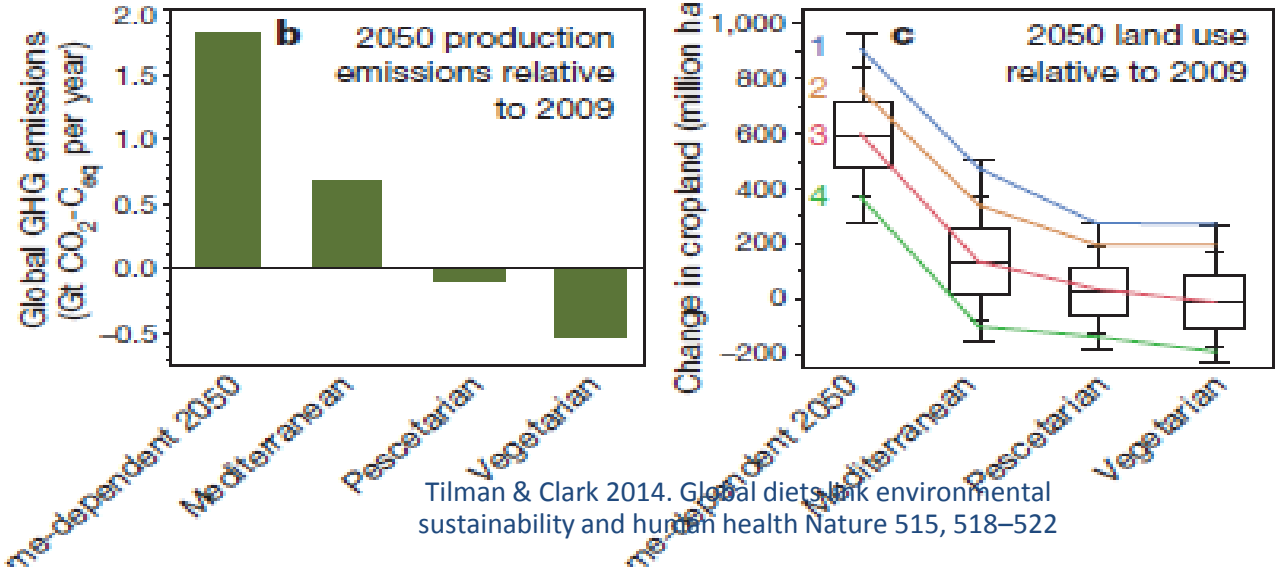
Lower GHG-emitting diets such as a Mediterranean diet (more vegetable- and fish-based, but some meat), pescetarian diets and vegetarian diets have been linked to reductions in the incidence of such diseases.

Adoption of such diets is predicted to have environmental benefits in terms of both lower GHG emissions and reduced land-use requirements, compared to both a 2009 “average” global diet, and an income-dependent predicted diet based on the 2009 average.

Emerging academic consensus: health-environment synergies possible







Most fat people live in developing countries

Source: ODI. 2014. Future Diets

Tilman & Clark 2014. Global diets link environmental sustainability and human health Nature 515, 518–522

Group exercises to discuss the dimensions of livestock development most likely to contribute to sustainable food security

Group process

1. Participatory matrix scoring. Participants are asked to assign 20 'beans' to 6 different dimensions where actions are most likely to advance the roles livestock play in sustainable global food security. More beans=more likelihood of advancement.
2. The six dimensions were: Economics/Livelihoods, Equity, Environment, Nutrition/Health, Resilience, and Productivity
3. Rapporteur records choices in an xls file.
4. Rapporteurs also record gender, 'development perspective' (north versus south) and 'animal products perspective' (1) "we have to …" 2) "we want to …" 3) "we mustn't … " have more meat, eggs, milk and animals)
5. Participants discuss choices
6. Excel charts are generated for each group, and for the room as a whole.

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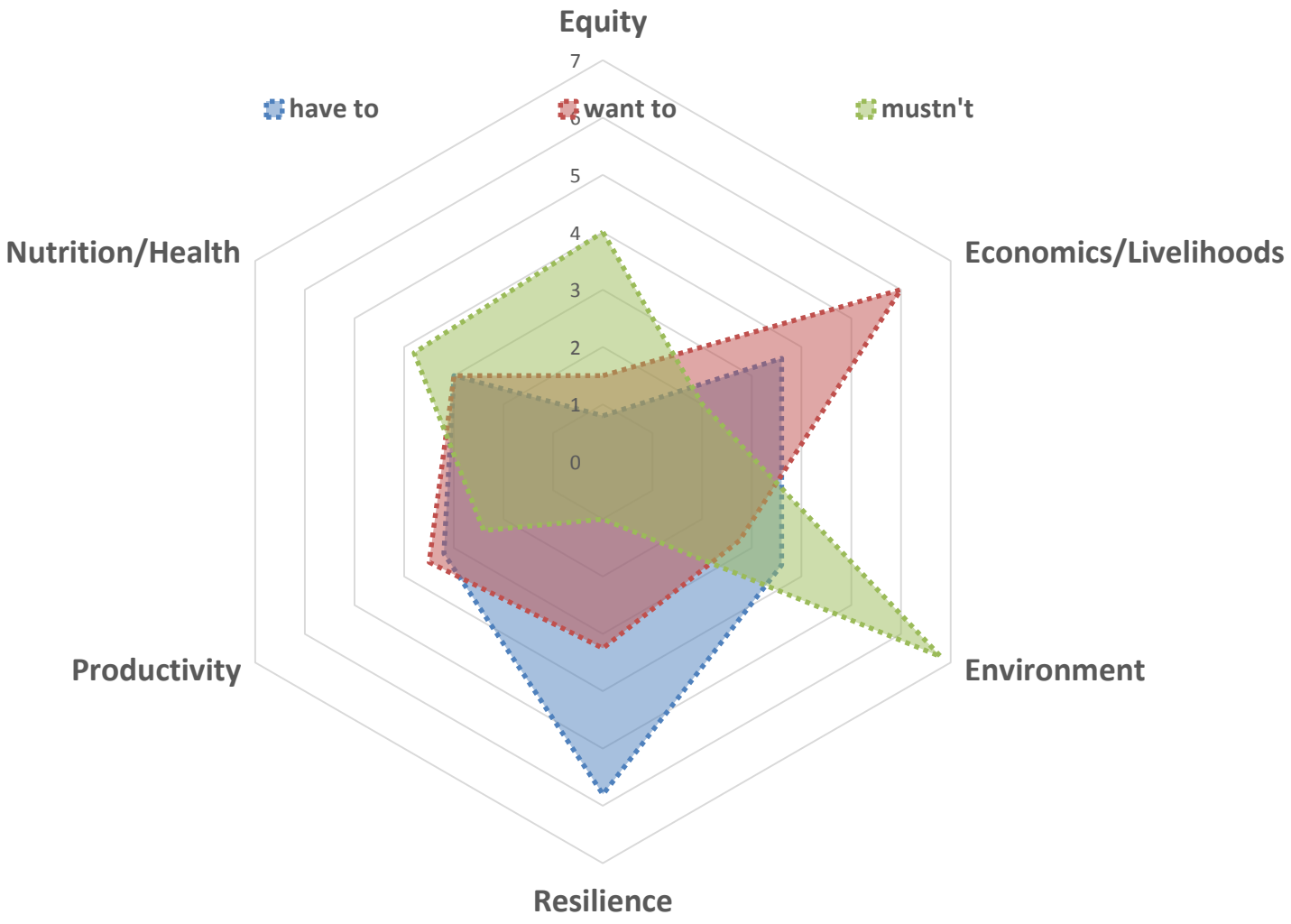
Feedback from the group exercises

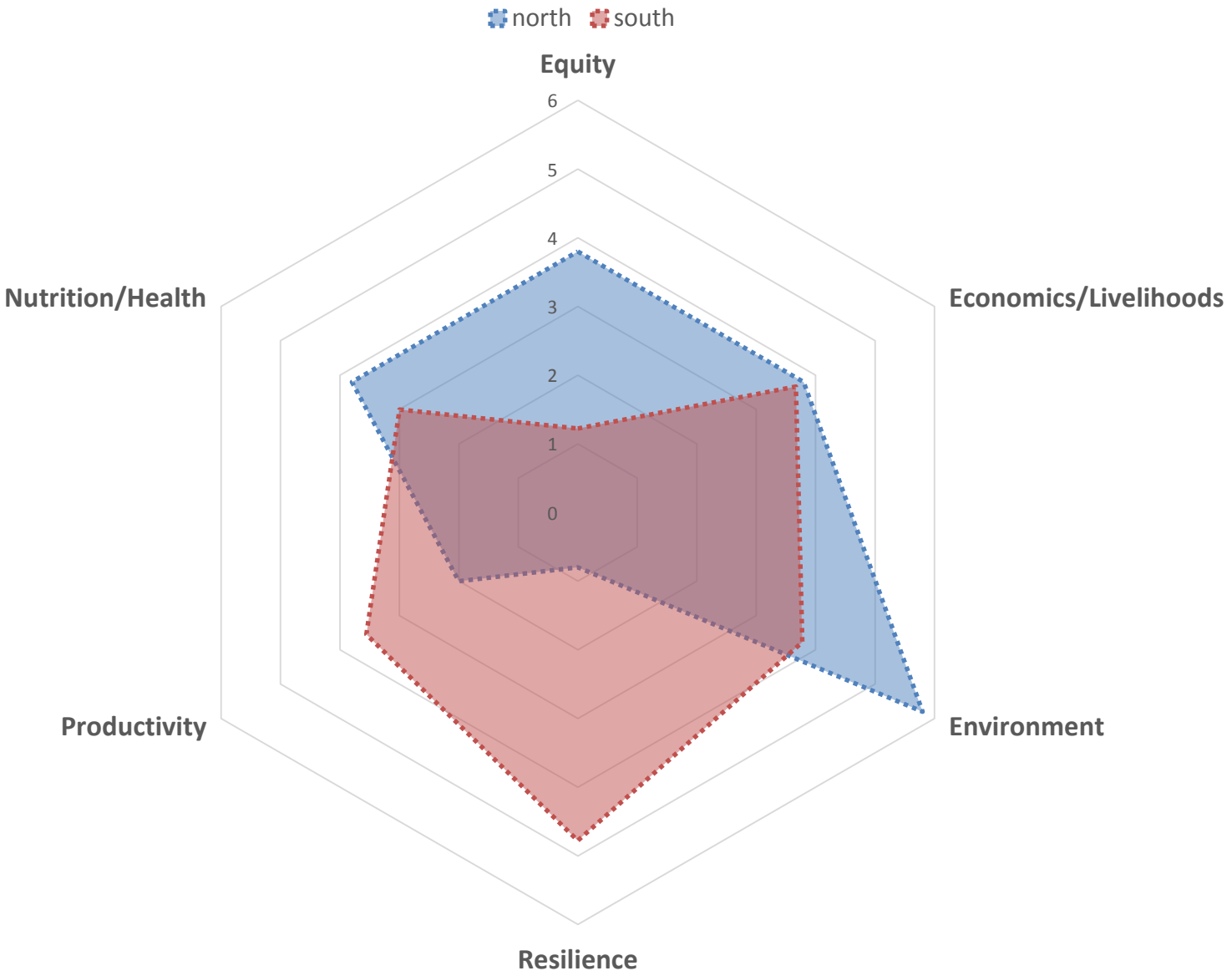
The charts show how different categories of people in the room ranked different intervention dimensions

Differences between development and consumption categories could be explained. Differences by gender were more difficult to explain.

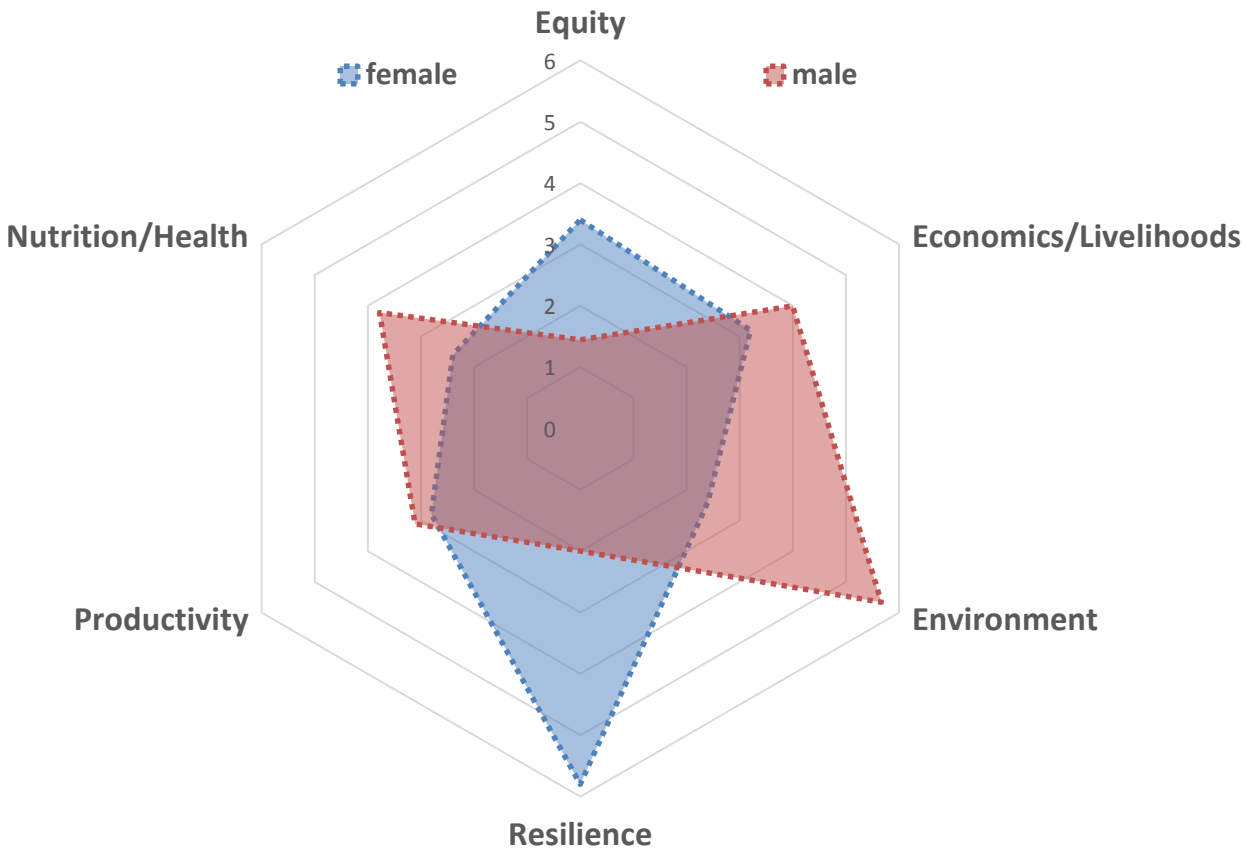
PERCEIVED IMPORTANCE OF DIMENSIONS BY CONSUMPTION PERSPECTIVE



PERCEIVED IMPORTANCE OF DIMENSIONS BY DEVELOPMENT PERSPECTIVE



PERCEIVED IMPORTANCE OF DIMENSIONS BY GENDER



Acknowledgements

The initial co-chairs were Alice Pell (Cornell University) and Shirley Tarawali (ILRI). Tarawali was replaced by Delia Grace on the day.

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